Shieldalloy Metallurgical Corporation
Newfield Borough, Gloucester County
September 5, 2006

General Information

The Shieldalloy Metallurgical Corporation (SMC) is located at 12 West Boulevard in the Borough of Newfield in Gloucester County. In 1983 the United States Environmental Protection Agency (USEPA) added the site to Nation Priorities List (i.e. Superfund). SMC is licensed by the United States Nuclear Regulatory Commission (USNRC). Contaminants include chromium, tricholorethene, uranium, thorium, and perchlorate.

Rail lines, wooded areas, residences, and small businesses bound the SMC Newfield property. The surrounding property is used for a combination of residential, agricultural and industrial purposes. Wetlands and open water have been identified and are limited to the area adjacent to the Hudson Branch. The site is underlain by the Cohansey Sand Formation, part of the New Jersey Coastal Plain Sole Source Aquifer, which serves nearby residences with potable drinking water. The ground water is classified as Class II-A.

Operations

SMC has been operating since approximately 1955, processing ores and minerals to produce primary metals, specialty metals and ferroalloys. The principal production processes include aluminothermic and reduction smelting of ores which produce metal, slag and other "by-product"/waste. Due to the presence of naturally-occurring thorium and uranium in certain raw materials, the site has been regulated by the USNRC since 1963.

SMC used potassium perchlorate in the manufacturing processes as a reaction-initiator. In the 1960's SMC operated a degreasing unit that used the solvent trichloroethene.

SMC had steadily been eliminating its production processes since the late 1980's, with all production ending on June 30, 2006. As the processes have ceased, SMC has demolished the corresponding manufacturing buildings. In 2005, the sales offices relocated to Swedesboro, New Jersey. Only minimal product shipping activities are currently ongoing at the site.

Waste

Slags, lime dust (from baghouse air treatment units) ahd other materials generated as a result of the manufacturing processes were and continue to be stored on the ground at the site. A large quantity of the slags (28,000 m^3) and dusts (20,000 m^3) contain low levels of radioactive isotopes and are stockpiled in accordance with the USNRC license. The majority of the non-USNRC regulated materials have been removed from the site and disposed at appropriate facilities.

In the 1960's raw wastewater generated from chromium metal production processes was disposed in an unlined lagoon at the site. The unlined lagoon was replaced by a series of lined lagoons, which subsequently leaked and were closed in accordance with NJDEP regulations in 2001.

Waste handling procedures at the site have caused extensive contamination of the ground water at and emanating from the site, mainly with chromium and trichlorothene. Recently, perchlorate was detected in the ground water at the site. Contamination of soil, sediment and surface water has also occurred.

NJDEP Issues

Under NJDEP directives and Administrative Consent Orders (ACO), SMC has been treating the contaminated ground water since 1979. The ground water treatment system has been upgraded over time to be more effective. Treated ground water is discharged to the Hudson Branch in accordance with a NJDEP permit.

On February 1, 2006, SMC and its consultant, TRC Companies, Inc., entered into an ACO with NJDEP to implement an "exit strategy," whereby the consultant completes the cleanup at the site. The ACO states that SMC will address the radioactive materials and perchlorate, while TRC will address the remaining contamination. It is important to note that this ACO does not affect SMC's ultimate liability for cleanup of the site.

Superfund Issues

A Record of Decision for the ground water contamination was signed for the site in 1996, requiring SMC to implement further upgrades to the existing ground water treatment system and characterize the full extent of the ground water contamination. A second Record of Decision is planned for 2007 to address the soil, sediment and surface water contamination. Soil will likely be cleaned-up to meet non-residential use (i.e. restricted use) criteria.

USNRC Issues

The USNRC has issued an interim guidance document for a Long-Term Control (LTC) possession-only license. SMC is eligible to seek a LTC license which will allow the continued on-site storage of the USNRC-regulated materials without requiring off-site disposal. The guidance spells out the licensee's role to remain responsible for the long-term protection of the public health, safety and the environment by implementing site access and engineering controls. The USNRC's role is to assure that the licensee's controls remain effective by conducting oversight reviews, inspections and license renewals. NJDEP is on record with the USNRC opposing this approach for managing the radioactive material at the SMC site.